DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT

MONTEBELLO RENEWAL - A 'WESTERN SHIELD' PROJECT

REPORT ON 1997 FIELD WORK

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Background

The aim of 1997 field work in the Montebello Islands Conservation Park was to assess the effectiveness of the Black Rat eradication project conducted in 1996. Rat eradication is Phase 1 of *Montebello Renewal*, part of the Department of Conservation and Land Management's (CALM) 'Western Shield' program, which aims to control feral predators and re-establish native species. Phase 2 is the eradication of the feral cats that occur on Hermite Island, while Phase 3 is the re-introduction of locally extinct species and, possibly, the introduction of threatened species from the mainland.

Phase 1 was a major project lasting from late May to early September 1996, involving over 40 people, of whom at least eight were at the Montebellos at one time. Some 11,000 bait stations (plastic bottles with holes cut in their sides) were laid on a 50 m grid over all larger islands, with smaller islands, islets and rocks being treated with plastic bags of bait laid from a helicopter and by boat. Over two tonnes of Talon G rodenticide were laid, over all the 180 or so islands, islets and rocks in the archipelago (Burbidge 1996). Phase 1 was funded by CALM, the Commonwealth Department of Primary Industry and Energy, and major sponsors who included West Australian Petroleum, Apache Energy, ACI Plastics Packaging, Crop Care Australasia, Australian Customs Service, Pilbara Regiment Australian Army, and Selleys Chemical Company. Volunteers were crucial for this labour-intensive project and 24 people, mostly CALM staff, gave up some of their holidays to work at the Montebellos.

1997 field work

Two trips were made to the islands in 1997. The first was from 14 to 18 March. Personnel were Peter Moore, Fran Stanley, Peter Kendrick and Bob Taylor, all from CALM's Pilbara Region. They were transported to and within the islands by the Australian Customs Service Vessel *Andrew Fisher*. They visited Ah Chong, Alpha, Bluebell, Brooke, Campbell, Carnation, Crocus, Delta, Gardenia, 'Gossypium', Hermite, Kingcup, 'Kurrajong', North West, Primrose, and Trimouille Islands, searching for tracks and other signs of rats.

Small numbers of rats were located on Primrose and Crocus Islands. On both islands a number of bait stations were found to be empty. Clearly, some bottles on these islands were insufficiently baited during the re-baiting visits in 1996. Both islands were re-baited with new bait stations during the March visit. No sign of rats was seen on any of the other islands.

The second trip was from 14 July to 31 July 1997. Personnel were Fran Stanley, Mick Sermon (Pilbara Region), Phil Fuller and Andrew Burbidge (Woodvale Research and WATSCU). We were transported to the islands on the Australian Customs Service Vessel *Charles Kingston*. Transport back to Karratha for the two Pilbara Region staff was by helicopter, courtesy Woodside Petroleum, and return transport for the two Perth staff was by helicopter to Barrow Island and jet to Perth, both courtesy West Australian Petroleum.

During this trip we developed proposed names for many of the un-named islands in the Montebello group. The names chosen are Australian plants, complementing the English flower names bestowed by the British during the atomic weapons test in 1952. The proposed names

will be submitted for official approval in due course. Proposed names used in this report are shown within quotation marks.

We used a 4.5 m aluminium dinghy with outboard motor for transport within the archipelago. Strong winds on many of the days limited the amount of work that could be carried out. (There were strong wind warnings every day from 15 to 23 July except 20 July and the actual winds on that day were 30 to 35 knots!) Nevertheless, we were able to visit all the larger islands and many smaller ones.

During this visit we laid and serviced lines of Elliott traps, each set for three nights, on Alpha (three locations), Bluebell (two locations), Campbell, Carnation, Crocus (two locations), Delta, Foxglove, Gardenia, Hermite (seven locations), Kingcup, Marigold, North West (two locations), and Trimouille (six locations) Islands. In addition to making searches on these islands, we also searched Ah Chong, 'Birthday', 'Bloodwood', Brooke, Buttercup, 'Gossypium', 'Grevillea', Ivy, and Pansy Islands for rat tracks or fresh scats. While on islands we checked any 1996 bait stations seen, to ensure that they still contained bait. No rats were trapped and no rat sign was seen on any island. No empty bait stations were found, except on Crocus Island, and these had been replaced in March.

We also re-baited, with plastic bags containing 'Talon' rodenticide, small islets near Crocus and Primrose Islands in case any rats had crossed to them from the larger adjacent islands.

Radiation safety procedures were followed, as laid down in "Radiation hazard assessment and monitoring programme for the Monte Bello Islands, May 1993" (prepared by Western Radiation Services for CALM).

As was the case during 1996, we kept a diary of daily activities; this diary will be lodged in the CALM Woodvale library, with a copy in the CALM Karratha library.

Condition of bait stations and Talon

The plastic bottles have degenerated considerably in the sun, as they were designed to do (the plastic was not ultra-violet light-stabilised). Many bottles have already lost parts or all of the top or sides. Most Talon remaining in the bait stations has been rain-affected and is now in a solidified, fungus-covered lump in the bottom of the bottle. Some, in protected locations, seems in fairly good condition. As the bottles continue to break down in the UV light (they will probably disappear completely within another two years) the Talon will become more exposed to the rain, wind and sun. It, too, should gradually disappear, especially in the heavy rain and strong wind conditions of a cyclone.

We saw no evidence that native animals were eating the Talon laid in 1996. Of the two granivorous birds occurring in the Montebellos, Bar-shouldered Doves were considerably more common in 1997 than in 1994, 1995 or 1996. Brown Quail have never been frequently observed, but were noted on several islands during July 1997. Raptors, including White-bellied Sea-Eagles, Ospreys, Brahminy Kites and Kestrels, were as common or more common than in past years. Reptiles were also common in July, noting that this is the coolest time of the year. Bungarra (*Varanus gouldii*) tracks were plentiful on all islands on which they occur.

We used bait stations to exclude birds from the bait laid during the 1996 operation as there was concern that they might eat the rodenticide if it was available to them. However, we saw no evidence during 1996, or subsequently, that Talon is attractive to birds or any other native animal. This is a distinct advantage that Talon has over the Pindone-impregnated oats used in earlier rat eradication exercises on islands off the Western Australian coast. We anticipate that there will be no deleterious environmental consequences from the remaining Talon bait and believe that there is no need to attempt to clean it up. Samples of the degenerating Talon were

collected in July for analysis and the results will influence decisions on translocations of native mammals (see below).

Conclusions and recommendations for future rat monitoring

We were unable to detect any sign of rats during the July 1997 trip. This indicates that:

1. The rat eradication project has been successful; or
2. Any rats remaining are in very small numbers in small pockets in places not examined by us.

It seems likely that eradication has been achieved, as the same baiting techniques were used in all areas. However, the enormous scale of the project, and its dependence on many different staff and volunteers, increased the possibility of mistakes, as was obviously the case on Primrose and Crocus Islands. Thus, future monitoring is essential.

If any rats do remain, they are likely to be undetectable by foot searching and trapping for some time. Should Phase 2, the feral cat eradication, proceed in 1998, the opportunity should be taken to carry out further monitoring for rats. Should the cat work not take place in 1998, further rat monitoring should occur in 1999.

There have been no detrimental environmental effects of the use of Talon rodenticide at the Montebellos. Indeed, all the environmental consequences are positive as the absence of rats will allow many native species to increase in abundance and will allow some of the islands to be used for translocations of threatened species from the mainland.

Other work

During the first four days of the trip, Geoff Kregor (Ranger-in-Charge Millstream National Park) and two Green Corps workers were at Hurricane Hill Hut carrying out maintenance and preparing footings for a new storage seatainer that was delivered by a Mermaid Marine barge and Bristow 'Puma' helicopter under charter to Woodside Petroleum on 31 July. The seatainer was originally scheduled for delivery on 17 July but delivery was delayed several times. The Green Corps workers returned to Dampier on ACV *Charles Kingston* on 18 July. Geoff Kregor stayed on awaiting the delivery of the new seatainer via barge, but when this was further postponed he returned to Karratha by helicopter via Varanus Island on 22 July, courtesy Apache Energy. The new seatainer was eventually delivered on 31 July, with a 'Puma' helicopter lifting it from the barge to its new position near the Hut.

The delay in delivery of the seatainer resulted in the fuel for the outboard and fresh food running out. Fortunately, Mermaid Marine delivered a drum of fuel and food on 26 July, using one of their tugs, which had travelled to Varanus Island to help berth a oil tanker, and a work boat, the *Mermaid Arrow*, which brought the drum and food from Varanus to Hermite Island.

During our visit, all personnel carried out routine maintenance on the building and associated equipment, including rust-chipping and painting most of the Hut. We also drafted this report, a paper on the seabirds of the Montebello Islands for submission to the Seabird Island Series in *Corella*, and commenced drafting a paper on the vertebrate fauna of the archipelago.

***Montebello Renewal* Phase 2**

Fresh cat tracks were seen everywhere on Hermite Island during both the March and July visits. The implementation of Phase 2 will depend on when CALM's feral cat research team is ready to carry out the work. Discussions will be held with Dr David Algar and his supervisors to

work out the best methods to be employed, as well as suitable timing for the project and the necessary logistic support.

***Montebello Renewal* Phase 3**

The reconstruction of the fauna of Hermite Island must await the eradication of feral cats. Introductions of threatened species to other islands can now be considered.

Also present at the Montebellos for the first four days of the July visit was Don Langford of the research section of the Parks and Wildlife Commission of the Northern Territory, who assessed the suitability of Trimouille Island as an introduction site for the 'Extinct in the Wild' Mala (*Lagorchestes hirsutus* undescribed central Australian subspecies). He concluded that the habitat was suitable; the only doubt now remaining is the longevity and possible effects of the remaining 'Talon' rodenticide laid in 1996 (see above). A separate report will be prepared for the Mala Recovery Team and a Translocation Proposal will be prepared and submitted if and when the Team decides to proceed with the translocation.

Of interest was the collection by Bob Taylor in March of a sub-fossil hare-wallaby skull on Trimouille Island. The identification of this skull to species has yet to be made. Stokes (1846) reported shooting many wallabies on Trimouille Island during the 1840 visit of HMS *Beagle*; these were apparently the Spectacled Hare-wallaby *Lagorchestes conspicillatus*. However, Montague (1914) concluded that the *Beagle*'s crew had actually shot these wallabies on Hermite Island, because he found wallabies only on that island and because old charts showed the whole group as a single island named 'Trimouille'. A reading of Stokes, however, shows that one of his officers, Fitzmaurice, prepared detailed charts of the Montebellos and it is unlikely that he would have made such a mistake. The feral cats, present on the islands at the time of Montague's visit, may have already extirpated the Trimouille Island wallabies. Feral cats were present on Trimouille in 1971 (Burbidge 1971), but are now absent.

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References

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